

Compatible S-band Transceiver

Completed Technology Project (2017 - 2018)



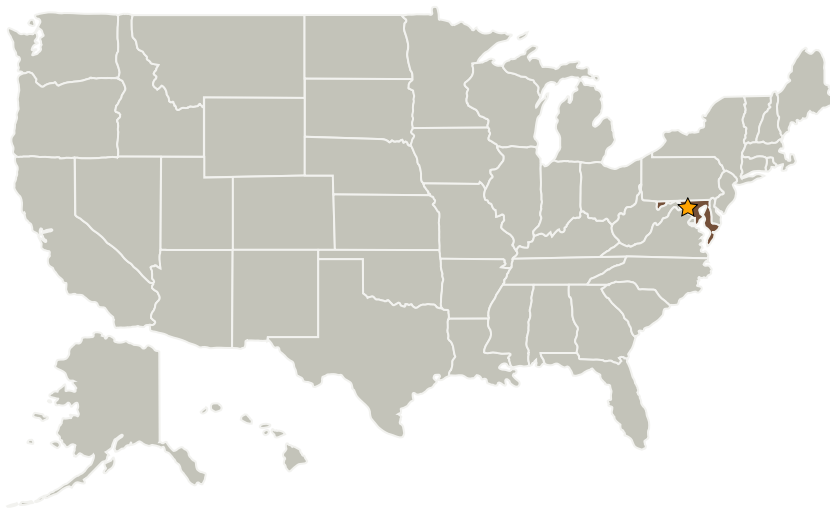
Project Introduction

Reliable CubeSat transceiver design in S-band leveraging the advanced bus architecture by making use of its field-programmable gate array (FPGA) resources for communications.

Anticipated Benefits

Development of a highly reliable CubeSat transceiver. Savings in resources and mass by standardizing and utilizing advanced bus architecture. Rapid fusion to future missions. Enables and enhances small satellite based mission concepts.

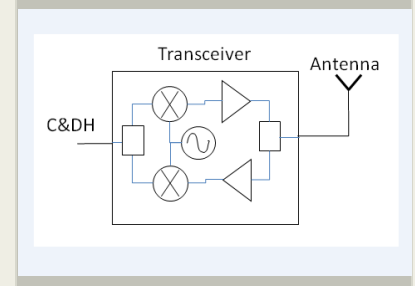
Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Goddard Space Flight Center (GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations

Maryland



s-band

Table of Contents

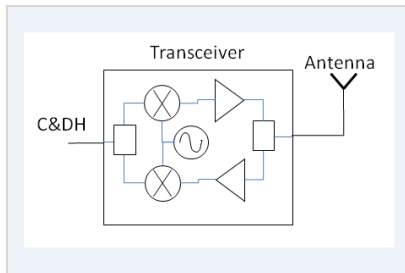
Project Introduction	1
Anticipated Benefits	1
Primary U.S. Work Locations and Key Partners	1
Images	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

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Images



s_band

s-band

(<https://techport.nasa.gov/image/28231>)

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Managers:

Wesley A Powell

Michael A Johnson

Principal Investigator:

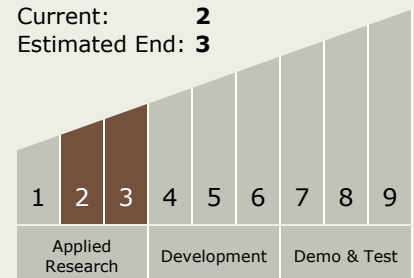
Wei-chung Huang

Technology Maturity (TRL)

Start: 2

Current: 2

Estimated End: 3



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Technology Areas

Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
 - └ TX05.2 Radio Frequency
 - └ TX05.2.7 Innovative RF Technologies

Target Destinations

Mars, Earth, Others Inside the Solar System